

MIMOSA ALBIDA AND ITS VARIETIES

Velva E. Rudd

About 600 species have been assigned to the genus Mimosa. Some are widespread and known to be variable; many are inadequately known.

In the course of identifying collections from the Galápagos Islands it was necessary to scrutinize specimens of M. albida, a notoriously polymorphic species. It was immediately evident that the group is "difficult" and that a thorough study of related species is needed to evaluate and align the taxa. Such a study I shall not attempt but because I need a name for use in the Flora of the Galápagos, I am proposing a new variety, and have prepared a brief résumé of Mimosa albida, sensu latior. This treatment is based almost exclusively on specimens in the U. S. National Herbarium.

Mimosa albida Humb. & Bonpl. ex Willd. ranges from Sinaloa, in western Mexico, southward through Central America to Brazil and Bolivia. It is a member of the complex series Sensitivae of Bentham (Trans. Linn. Soc. 30: 390-392. 1875), based on a subdivision of section Eumimosa DC. (Prodr. 2: 425. 1825).

The series Sensitivae is typified by M. sensitiva L. and now includes about 20-30 species occurring in Mexico, Central America, and South America. The group, including M. albida, is recognizable by its globose inflorescences and leaves with an eglanular petiole, 1 pair of pinnae, each bearing 1 or two pairs of relatively large leaflets. The stems may be pubescent or glabrous, armed or unarmed. The leaflets may be obliquely ovate, oblong or obovate; usually, one of the lower pairs of leaflets is much reduced in size, sometimes lacking. The leaflets may exhibit two sorts of pubescence, a puberulence of fine, more or less crispate hairs, and a sparse or dense indument of striga. The two sorts of hairs may occur together, separately, or be completely lacking, but the patterns appear to be specifically, or varietally, constant. The fruits offer the best characters for distinguishing or, at least, grouping species. Convenient and, apparently, natural divisions can be made between species with long, spreading setae on the fruit (M. sensitiva L., M. velloziana Mart., M. argentinensis Burk., M. panamensis Benth., etc.), with fruit glabrous or nearly so (M. nuda Benth., M. sensibilis Griseb., M. acapulcensis Robins.), and fruit with strigose or, rarely, hirsute pubescence (M. albida Humb. & Bonpl. ex Willd., M. manzanilloana Rose, M. standleyi Macbr.).

MIMOSA ALBIDA Humb. & Bonpl. ex Willd. Sp. Pl. 4: 1030. 1806;
Kunth. Mim. 2, pl. 1. 1819.

Shrubs, sometimes scandent or prostrate, to about 3 m. tall; young stems pubescent to subglabrous, armed with recurved thorns or unarmed; leaflets obliquely ovate to obovate, acute or obtuse, the surfaces glabrous or pubescent; flowers 4-merous, pink to purplish, borne in globose, pedunculate heads about 1.5-2 cm. in diameter at anthesis, the inflorescences axillary or terminal, usually racemose; fruit oblong, about 1-4 cm. long and 4-8 mm. wide, essentially sessile, notably strigose, rarely hirsute, dehiscent by breaking into 1-seeded articles and separating from the persistent margin.

For most practical purposes there is no need to determine collections beyond the species. There are times, however, when it is desirable to be more definite. Sometimes it is interesting to observe the geographic pattern, especially in relation to other species, and this can best be done if the variants are recognized.

Key to varieties of Mimosa albida

Leaflets puberulent or glabrous above, not strigose.

Fruit predominantly strigose.

Lower surface of leaflets uniformly strigose or puberulent, the upper surface puberulent to glabrous.

Fruit uniformly puberulent and strigose (Mexico to South America).....1. var. albida

Fruit essentially glabrous, with coarse strigae along the margin and a few on the surface of the valves.

Leaflets obliquely ovate, acute (Venezuela).....

2. var. willdenowii

Leaflets obliquely obovate, obtuse (Mexico).....

3. var. eurphylla

Lower surface of some leaflets glabrous, others sparsely strigose, the upper surface glabrous.

Young stems glabrous or nearly so, sometimes sparsely strigose or sparsely hirsute, often unarmed; fruit puberulent and sparsely strigose (Mexico).....

4. var. glabrior

Young stems puberulent, sometimes setose, armed or unarmed; fruit densely setose, sometimes glabrate (Ecuador; Peru).....5. var. erratica

Fruit densely hirsute (Ecuador).....6. var. aequatoriana

Leaflets strigose above and on the lower surface; fruit strigose. (Mexico to South America).....7. var. strigosa

1. MIMOSA ALBIDA Humb. & Bonpl. ex Willd. var. ALBIDA.
Mimosa adhaerans H.B.K. Nov. Gen. & Sp. 6: 249. 1824.
Mimosa racemosa Schlecht. Linnaea 12: 557. 1838.

Shrubs, sometimes scandent, to about 2 m. tall; young stems puberulent, usually armed; leaflets obliquely ovate, acute, puberulent to glabrous above, puberulent and usually also strigose below; fruit puberulent and strigose, 1.5-4 cm. long and 5-8 mm. wide.

Type: Moche, Peru, Humboldt & Bonpland 3756 (B; Field Mus. Neg. 1295 ex B).

Distribution: Known from Mexico, Guatemala, El Salvador, British Honduras, Honduras, Nicaragua, Colombia, Venezuela, Ecuador, Peru, Bolivia, and Brazil.

As is to be expected, the differences between varieties are not clear cut. In cases of doubt, specimens are treated as of the typical variety. The collections from Brazil and some from Ecuador have fruits with the pubescence less tightly appressed than usual, suggesting a trend toward var. aequatoriana. Of the two synonyms cited above, M. racemosa, from Oaxaca, Mexico, is known to me only from the original description and M. adhaerans from the description and a photograph (Field Mus. Neg. 1294 ex B). the latter, presumably, is from Venezuela. It was cited as "Cresit cum praecedente", M. strigosa, which "Cresit ad Orinocum." I have seen no other collections from that area and, because many of the Humboldt and Bonpland localities have proved to be erroneous, there is some question as to the actual type locality.

2. MIMOSA ALBIDA var. WILLDENOWII (Poir.) Rudd, comb. nov.
Mimosa floribunda Willd. Sp. Pl. 4: 1031, non Vent. 1803.
Mimosa willdenowii Poir. in Lam. Encycl. Suppl. 1: 50. 1810,
 nom. nov. based on M. floribunda Willd.
Mimosa floribunda [var.] willdenowii (Poir.) DC. Prodr. 2:
 426. 1825.
Mimosa albida var. floribunda (Willd.) Robins. Proc. Amer.
 Acad. 33: 311. 1898.

Shrubs, sometimes scandent, to about 2 m. tall; young stems puberulent, armed or unarmed; leaflets obliquely ovate, acute, puberulent or glabrous above, uniformly strigose below; fruit 1.5-4 cm. long, 5-7 mm. wide, strigose along the margin and with a few strigae on the surface of the valves, otherwise glabrous or nearly so.

Type: Caracas, Venezuela, Bredemeyer s.n. (B; Field Mus. Neg. 1323 ex B).

Distribution: Known only from northern Venezuela.

In fruit characters, var. willdenowii is similar to var. euryphylla, from Mexico; in other characters, it is essentially identical to the typical variety. The name M. floribunda has sometimes been incorrectly attributed to H.B.K. and a collection of Humboldt and Bonpland from Cumaná cited as the type.

3. MIMOSA ALBIDA var. EURYPHYLLA Robins. Proc. Amer. Acad. 33: 311. 1898.

Shrub, to about 2.5 m. tall; young stems puberulent and also hispid, glabrescent, sparsely armed; leaflets predominantly obliquely obovate to elliptic, obtuse, mucronulate, glabrous above, the lower surface moderately strigose; fruit 1-2.5 (-3) cm. long, 4-7 mm. wide, essentially glabrous but with coarse strigae along the margin and a few on the surface of the valves.

Type: Valley of Jiquipilas, Chiapas, Mexico, Nelson 2927 (US).

Distribution: Known from Sinaloa and Chiapas, Mexico.

Additional material: MEXICO: Sinaloa: La Nevería, rocky hill N. of Mazatlán, Mexia 1099 (US). Chiapas: Jalisco (= Arriaga), Doyle 49 (US). Arriaga, Mell 2194 (US).

The type of this variety is a flowering specimen and is characterized by its obovate leaflets and flowers with glabrous calyces. The other specimens cited above are in fruit but are similar in leaflet shape and pubescence; the few remaining calyces are glabrous or nearly so. It would be helpful, however, to see fruiting specimens from the type locality. Similar fruits occur on specimens of var. willdenowii, from Venezuela, but the shape of the leaflets is a little different, as indicated in the key. Another specimen with similar fruit, but leaflets like those of var. strigosa, has been collected in Costa Rica.

4. MIMOSA ALBIDA var. GLABRIOR Robins. Proc. Amer. Acad. 33: 311. 1898.

Mimosa sesquijugata Donn. Sm. Bot. Gaz. 13: 74. 1888.

Mimosa manzanilloana Rose, Contr. U. S. Nat. Herb. 1: 326. 1895.

Shrub, often scandent or procumbent, to about 3 m. tall; young stems commonly glabrous or nearly so, sometimes sparsely strigose or sparsely hirsute, often unarmed; leaflets obliquely ovate, subelliptic, or obovate, acute, glabrous above, the terminal leaflets usually glabrous below, the lower pair sparsely strigose to glabrous; fruit puberulent and sparsely strigose, glabrescent, 2-2.5 (-4) cm. long and 5-8 mm. wide.

Type: Malpais, Dept. Santa Rosa, Guatemala, Heyde & Lux (Donn. Sm.) 4133 (GH). Isotype at US.

Distribution: Sinaloa, Mexico to El Salvador and, possibly, in Nicaragua and Panama.

Additional Material: MEXICO: Sinaloa: Mazatlán, Rose, Standley & Russell 13819 (US). Nayarit: Acaponeta, Rose, Standley, & Russell 14452 (US). Colima: Manzanillo, Palmer 905 in 1890 (US type of M. manzanilloana); Ferris 6038 (US). Guerrero: Acapulco, Palmer 68 in 1895 (US). Atoyac, Galeana, Hinton 10904 (US). GUATEMALA: Baja Verapaz: Santa Rosa, von Tuerckheim (Donn. Sm.) 1327 (US type of M. sesquijugata), 3904 (US). EL SALVADOR: Ahuachapán: Ahuachapán, Standley 19850 (US). NICARAGUA: Masaya: Masaya, SW. slopes of Volcán Santiago, Maxon 7660 (US). PANAMA: Canal Zone: Corozal-Panama road, Killip 3146 (US).

The leaflet pubescence of var. glabrior and var. erratica is strikingly different from that of other varieties of M. albida. In fruit characters, var. glabrior is like typical M. albida except that the strigae are sparse and very short. The specimen from Nicaragua is sterile and that from Panama may be a hybrid, but to indicate possible occurrence that far south, they are tentatively referred to M. albida var. glabrior.

5. MIMOSA ALBIDA var. ERRATICA Macbr. Field. Mus. Pub. Bot. 8: 91. 1930.

Shrub, usually prostrate or scandent, to about 2 m. tall; young stems puberulent, sometimes setose, armed or unarmed; leaflets obliquely ovate, subelliptic, or subobovate, acute, glabrous above, the terminal leaflets usually glabrous below, the lower pair, sparsely strigose to glabrous; fruit puberulent and strigose, sometimes glabrescent, 2-2.5 cm. long, 5-7 mm. wide.

Type: Tambo de Pariocota, Ancash, Peru, Macbride & Featherstone 2552 (F). Isotype at US.

Distribution: Known from Ecuador and Peru.

Additional material: ECUADOR: Imbabura: Ibarra, vicinity of Lake Yaguarcocha, Penland & Summers 851 (US). Azuay: Tablón de Oña, Fosberg 23215 (US). Loja: Loja, Rose, Pachano, & Rose 23256 (US). PERU: Lambayeque: E. of Olmos, Hutchison & Wright 3402 (US). La Libertad: Cerro Cabezón, Trujillo, López 676 (US). Lima: S. of Santa Clara, Rose 18631 (US). Chosica, Soukoup 2057 (US). Arequipa: Lomas de Atiquipa, between Nozca and Chala, Ferreya 6465 (US).

This is very similar to var. glabrior in leaflet characters but its fruits and general appearance suggest var. albida.

6. MIMOSA ALBIDA var. AEQUATORIANA Rudd, var. nov.

A varietate typica fructibus hispidus differt.

Shrub, sometimes scandent, to about 2 m. tall; young stems puberulent, armed or unarmed; leaflets obliquely ovate to sub-elliptic, acute, puberulent above, usually glabrescent, puberulent and strigose or substrigose below; fruit 1.5-2.5 cm. long, 4-5 mm. wide, densely hirsute with setae 1-2 mm. long.

Type: In the U. S. National Herbarium, no. 1021791, collected in the vicinity of Guayaquil, Ecuador, August 11, 1918, by J. N. Rose and George Rose (no. 22111). Isotype at GH.

Distribution: Known from Ecuador, possibly from other areas.

Additional material: ECUADOR: Islas Galápagos: Isla San Cristóbal (Chatham), Schimpff 178 (CAS, NY). Guayas: Isla de Puná, Eggers 14750 (GH, US). Near Guayaquil, Jameson 582 (US); Mille s.n. (GH); Schimpff 411 (GH). Oil camp between Guayaquil and Salinas, Hitchcock 20041 (US), 20047 (GH, US). 4 km. E. of Chongón, Gilmartin 660 (US).

In spite of what would appear to be excessive taxonomic coverage of Mimosa albida, I believe that the specimens cited above are distinct enough to warrant recognition as a new variety. The fruits of var. aequatoriana, being uniformly hirsute rather than strigose, are unlike those of all other varieties of M. albida or, in fact, other species of the series Sensitivae. The vegetative parts and flowers, however, are indistinguishable from those of var. albida and, largely for that reason, I do not feel that specific rank is justified. Another reason for retaining this taxon within M. albida is the fact that some specimens of var. albida and var. strigosa show a tendency toward hirsute fruits, i.e., the strigae, instead of being tightly appressed, are somewhat raised. Very young fruits of those varieties often appear to be potentially hirsute because the strigae are relatively long, early reaching their full length. As the fruit enlarges, the strigae become less conspicuous. Two specimens, one from Mexico, the other from Colombia, bear immature fruits that, apparently, would retain the juvenile, hirsute character because of a galled condition due to insect activity. The specimens cited above as var. aequatoriana, although not fully mature, appear to be normal and uninfested.

7. MIMOSA ALBIDA var. STRIGOSA (Willd.) Robins. Proc. Amer. Acad. 33: 311. 1898.

Mimosa strigosa Willd. Sp. Pl. 4: 1030. 1806.

Mimosa williamsii Standley, Contr. U. S. Nat. Herb. 18: 105. 1916, non Rusby 1912.

Mimosa standleyi Macbr. Contr. Gray Herb. 59: 12. 1919, nom. nov. based on M. williamsii Standl.

Shrub, often scandent or prostrate, to about 3 m. tall; young stems puberulent or strigose, armed or unarmed; leaflets obliquely ovate, acute, densely and uniformly strigose on both surfaces; fruit strigose, 1-4 cm. long and 5-8 mm. wide.

Type: Probably collected by Humboldt. The original description cites no collector and the locality is given merely as "Habitat in America meridionali."

Distribution: Known from Mexico, Guatemala, British Honduras, Honduras, Costa Rica, Panama, Colombia, Venezuela, Ecuador, and Bolivia.

Like the typical variety, var. strigosa has a widespread geographic distribution. However, although the U. S. National Herbarium has a sizeable number of collections of Mimosa albida, there are none, of any variety, from the Orinoco region of Venezuela. It is possible that, again, there has been an error in citation of a Humboldt locality. A photograph of what might be the type of M. strigosa (Field Mus. Neg. 1377 ex B), indicates that the specimen was collected by Humboldt. The locality, not shown on the specimen, was given in a later publication (H.B.K., Nov. Gen. & Sp. 6: 248. 1824) as "ad Orinocum."

The var. strigosa differs from var. albida only in its leaflets, which are strigose above, as well as on the lower surface. Surprisingly, there seems to be little or no intergradation. All leaflets of a given plant are strigose above, or none are. The type of M. standleyi, from Panama (R. S. Williams 101), bears stipitate fruits, the apparent stipes due to abortion of the lowermost ovules, but in other characters it is indistinguishable from M. albida var. strigosa.